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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,147	10/08/2003	Kazumi Kimura	03500.015639.1	5070
5514	7590	11/29/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			PHAM, HAI CHI	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	
			2861	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/680,147	Applicant(s) KIMURA, KAZUMI	
	Examiner Hai C Pham	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 6, 7, 9, 15, 19 and 20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6, 7, 9, 15 and 19 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/917,742.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL REJECTION***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims **1, 4, 7, 9, 15** and **19** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims **1, 4, 5, 7, 8** and **19**, respectively, of U.S. Patent No. **6,677,972** in view of McIntyre et al. (U.S. 5,838,480).

The basic subject matter claimed in the instant application is fully disclosed in the above-mentioned Patent and is covered by the Patent except for the diffraction optical element being provided between the refractive optical element and the surface to be scanned in the optical axis direction. Namely, the base claim 1 in each of the Patent and the Current Application includes the following limitations:

U.S. Patent No. **6,677,972**

Current Application

incident optical means for causing at least	incident optical means for causing at least
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one light beam emitted from light source means to be incident on deflection means;	one light beam emitted from light source means to be incident on deflection means;
image formation means including at least one refractive optical element and at least one diffraction optical element for imaging the at least one light beam reflected and deflected by the deflection means on a surface to be scanned,	image formation means consisting of one refractive optical element and one diffraction optical element for imaging the at least one light beam reflected and deflected by the deflection means on a surface to be scanned,
wherein a front focus position of the diffraction optical element in the sub- scanning cross-section is provided between a power arrangement in the sub- scanning cross-section of an on-axis of the refractive optical element and a power arrangement in the sub-scanning cross- section of an off-axis of the refractive optical element, in an optical axis direction	wherein a front focus position of the diffraction optical element in the sub- scanning cross-section is provided between a power arrangement in the sub- scanning cross-section of an on-axis of the refractive optical element and a power arrangement in the sub-scanning cross- section of an off-axis of the refractive optical element, in an optical axis direction

However, McIntyre et al. discloses an optical scanning system (Fig. 13) comprising an image formation means (F- θ lens system 36a) including one refractive optical element (34a) and one diffraction optical element (35a), which has diffractive element (surface 42a) on its exit surface (45a), for imaging the light beam (light beam

Art Unit: 2861

emitted from the laser source 26) reflected and deflected by the deflection means (deflector 32) on the surface to be scanned (50), the diffraction optical element being positioned between the refractive optical element and the surface to be scanned (50) (Fig. 13). McIntyre et al. further indicates that the "placement the diffractive surface 42a on the second element 35a in the F- θ lens system 36a results in better optical performance" (col. 14, lines 1-16).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the diffractive element on the second lens in the imaging lens system as taught by McIntyre for better optical performance.

2. Claims 1 and 6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,677,972 in view of McIntyre et al. and Appel (U.S. 6,232,991).

The basic subject matter claimed in the instant application is fully disclosed in the above-mentioned Patent and is covered by the Patent except for the diffraction optical element being provided between the refractive optical element and the surface to be scanned in the optical axis direction and the tilt adjusting means and the shift adjusting means.

McIntyre et al. discloses the placement of the diffractive optical element. Appel teaches the second scanning lens (130) disposed close to the surface to be scanned being adjustably tilted so as to correct the curvature or bow of the scan lines.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide an adjusting means to the scanning lens of Kimura's above-mentioned Patent as taught by Appel for the purpose of minimizing the bow of the scan lines.

Allowable Subject Matter

3. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: the primary reason for the indication of the allowability of claim 20 is the inclusion therein, in combination as currently claimed, of the limitation "wherein even if a position of said refractive optical element is shifted vertically from the optical axis in a sub-scanning cross-section, an on-axis principal ray and an off-axis principal ray of the at least one light beam reach the surface to be scanned at heights whose difference in the sub-scanning direction is less than + 10 μm ", which is not found taught the prior art of record considered alone or in combination.

Response to Arguments

5. Applicant's arguments filed 09/13/04 have been fully considered but they are not persuasive.

Art Unit: 2861

Applicant argued that '972 Kimura Patent does not recite "the positioning of a front position of a diffraction optical element relative to the on-axis and off-axis power arrangements of a refractive optical element". The examiner respectfully disagrees. The Applicant is advised to review Claim 1 of '972 Kimura Patent for that subject matter.

Conclusion

6. Applicant's amendment, which changed the scope of the base claim 1, necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

Art Unit: 2861

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

November 24, 2004